

(FILE 'HOME' ENTERED AT 17:40:27 ON 24 JAN 2005)

FILE 'REGISTRY' ENTERED AT 17:40:47 ON 24 JAN 2005

L1 0 S LACTIC ACI/CND
L2 0 S LACTIC ACI/CN
L3 1 S LACTIC ACID/CN

FILE 'CAPLUS' ENTERED AT 17:41:28 ON 24 JAN 2005

L4 2582 S 50-21-5/PREP
L5 6172 S 50-21-5/PROC
L6 257 S 50-21-5/PUR
L7 8638 S L4 OR L5 OR L6

FILE 'REGISTRY' ENTERED AT 17:42:59 ON 24 JAN 2005

L8 1 S VINYL ACETATE/CN

FILE 'CAPLUS' ENTERED AT 17:43:34 ON 24 JAN 2005

=> s l7 and 108-05-4

REGISTRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress...
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

L10 12802 L9

L11 8 L7 AND L10

=> d 1-8 ibib abs hitstr

L11 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:490809 CAPLUS
DOCUMENT NUMBER: 141:54780
TITLE: Carbonylation of vinyl acetate and catalyst
INVENTOR(S): Eastham, Graham Ronald; Rucklidge, Adam John;
Cole-Hamilton, David
PATENT ASSIGNEE(S): Lucite International UK Limited, UK
SOURCE: PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004050599	A1	20040617	WO 2003-GB4679	20031031
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,				

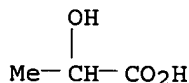
TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: GB 2002-28018 A 20021130
OTHER SOURCE(S): MARPAT 141:54780

AB The title carbonylation of vinyl acetate (I) comprises reacting I with CO in the presence of a source of hydroxyl groups and of a catalyst system, the catalyst system obtained by combining (c) a Group VIIIIB metal or a compound, and (d) a bidentate phosphine ligand, to produce a lactate ester or acid of MeCH(OH)C(=O)OR , where R = H, or a C1-30-alkyl or aryl moiety which may be substituted or unsubstituted and either branched or linear or 3-hydroxy propanoate ester or acid of $\text{CH}_2(\text{OH})\text{CH}_2\text{C(=O)OR}$. In an O free (<10 ppm O2) environment $\text{Pd}_2(\text{dba})_3$ (0.04 mmoles Pd) and 1,2-bis(di-tert-butylphosphinomethyl)benzene (0.24 mmoles) under N atmospheric, then 300 mL degassed MeOH was added, and the solution was allowed to stir for 1 h, methanesulfonic acid (0.24 mmoles) along with 0.34 g polyvinylpyrrolidone dispersant and 75 mL vinyl acetate (VAM) were added. The reaction mixture was heated to 85°, and 10 bar of CO was added causing the temperature to increase to 100°, where it was held, and the solution allowed to react for 3 h, where both the linear and branched products (methyl-2-acetoxy propanoate and methyl-3-acetoxy propanoate) were produced.

IT 50-21-5P, Lactic acid, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(carbonylation of vinyl acetate to branched or linear lactic acid or ester derivs.)

RN 50-21-5 CAPLUS

CN Propanoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



IT 108-05-4, Vinyl acetate, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(carbonylation of vinyl acetate to branched or linear lactic acid or ester derivs.)

RN 108-05-4 CAPLUS

CN Acetic acid ethenyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:592395 CAPLUS

DOCUMENT NUMBER: 139:99938

TITLE: Process for cleanly extracting citric acid from its ferment liquor

INVENTOR(S): Yu, Zheng; Peng, Qijun

PATENT ASSIGNEE(S): Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 15 pp.
CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

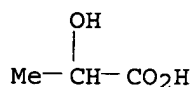
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1358707	A	20020717	CN 2001-138018	20011219
WO 2003051808	A1	20030626	WO 2002-CN336	20020520

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: CN 2001-138018 A 20011219
 AB Citric acid is separated from its ferment liquor (prepared by fermentation of carbohydrate (such as sweet potato, maize, molasses, etc.) with Aspergillus niger) by column chromatog. on specific amphoteric resin with 85-95° water as eluent. The amphoteric resin (its structure on page 2; here R = H or Me and R' = -OOH, -COOR, CH3COO-, and/or C2H5COO-) is prepared by suspension polymerizing acidic group-containing vinyl monomer (such as acrylic acid or its ester, vinyl acetate, vinyl propionate, and/or vinylpyridine) with styrene in the presence of crosslinking agent (such as divinylbenzene, trivinylbenzene, dipropenylbenzene, ethylene bis(methacrylate), glycerol tri(methacrylate), triallyl isocyanurate, etc.) and hole-forming agent (such as toluene, gasoline, paraffin, fatty acid, C4-10 alkane, etc.) (at a ratio of 30-40:25-40:6-15:30-50), chloromethylating with chloromethyl ether on benzene ring, and aminating with organic amine or polyvinyl-polyamine in the presence of Friedal-Craft's catalyst. The method may be used for separation of other organic acids from ferment liquor.
 IT 50-21-5P, Lactic acid, preparation
 RL: PUR (Purification or recovery); PREP (Preparation)
 (chromatog. process for isolation of citric acid from fermentation broth)
 RN 50-21-5 CAPLUS
 CN Propanoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



IT 108-05-4, Vinyl acetate, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (chromatog. process for isolation of citric acid from fermentation broth)
 RN 108-05-4 CAPLUS
 CN Acetic acid ethenyl ester (9CI) (CA INDEX NAME)



L11 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1997:250466 CAPLUS
 DOCUMENT NUMBER: 126:328605
 TITLE: The influence of pH and temperature on blood preservation
 AUTHOR(S): Nishikawa, Kenichi
 CORPORATE SOURCE: Fac. Med., Tottori Univ., Yonago, 683, Japan
 SOURCE: Yonago Igaku Zasshi (1997), 48(2), 76-87
 CODEN: YOIZA3; ISSN: 0044-0558
 PUBLISHER: Yonago Igakkai
 DOCUMENT TYPE: Journal
 LANGUAGE: Japanese
 AB There are many factors which can affect blood preservation. Among them,

pH and temperature are important ones. Their influences on blood preservation were examined by using two types of containers which have different CO₂ permeability, poly(vinylchloride) (PVC) bag (CO₂ permeability : 2,600 mL/m²-24 h-atm) and silicone-ethyl-vinylacetate (S-EVA) bag (CO₂ permeability : 10,000 mL/m²-24 h-atm), under two kinds of temperature (1°C and 5°C) during preservation, and then by changing pH under the same temperature Whole blood (460 mL) collected from 8 healthy

donors

with CPD solution was preserved under 4 different conditions for 5 wks; i.e. in PVC bag at 5°C and 1°C, in S-EVA bag at 5°C and 1°C. PH, 2,3-DPG and ATP levels were better maintained at 1°C than 5°C, and also in S-EVA bags than in PVC bags, resp. But K⁺ levels at 1°C was higher than that at 5°C. Whole blood collected in same procedure was divided into 2 groups for 1°C and 5°C preservation and each group was divided into 5 different pH groups (from 7.013 to 6.659 at approx. 0.09 interval) according to titration of lactate. They were stored for 1 wk. PH decreased during storage. The decrease of pH was larger in the groups with higher initial pH, and was larger at 5°C than at 1°C. Lactate and plasma K⁺ increased during storage. On the contrary, 2,3-DPG, glucose and plasma Na⁺ decreased. The changes of all the parameters were larger in the groups with higher initial pH except 2,3-DPG. The changes of 2,3-DPG, lactate, and glucose were larger at 5°C than at 1°C but the changes of plasma Na⁺ and plasma K⁺ were larger at 1°C than at 5°C. Furthermore, different dynamics of plasma Na⁺ and plasma K⁺ transport were observed around 6.8 in pH. ATP was affected by neither pH nor temperature

Such

changes of Na⁺, K⁺ and 2,3-DPG suggest that blood preservation at pH 6.8 or above is preferable. It seems rational to preserve whole blood at 1°C rather than at 5°C allowing to maintain higher pH.

IT

50-21-5, Lactic acid, biological studies

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

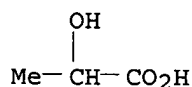
(influence of pH and temperature on blood preservation in

poly(vinylchloride)

or silicone-Et-vinyl acetate container)

RN 50-21-5 CAPLUS

CN Propanoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



IT

108-05-4D, Vinyl acetate, reaction products with ethylene and silicone

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

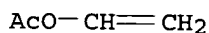
(influence of pH and temperature on blood preservation in

poly(vinylchloride)

or silicone-Et-vinyl acetate container)

RN 108-05-4 CAPLUS

CN Acetic acid ethenyl ester (9CI) (CA INDEX NAME)



L11 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:472323 CAPLUS

DOCUMENT NUMBER: 122:272809

TITLE: Determining VOC adsorption capacity

AUTHOR(S): Yaws, Carl L.; Bu, Li; Nijhawan, Sachin

CORPORATE SOURCE: Lamar University, Beaumont, TX, USA
SOURCE: Pollution Engineering (1995), 27(2), 34-7
CODEN: PLENBW; ISSN: 0032-3640

DOCUMENT TYPE: Journal
LANGUAGE: English

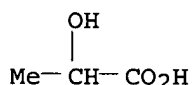
AB Correlation consts. for the adsorption of 243 volatile organic compds. by activated carbon are presented that are based on a logarithmic series expansion. The adsorption capacity data resulting from the correlation are useful in the engineering design of carbon adsorption systems for the removal of trace pollutants from gases. The removal of n-butanol from the waste air from a paint-spraying operation by activated carbon is given as an example. In actual operations under plant conditions, the capacity of an adsorption bed seldom achieve equilibrium. The US EPA design manual suggests a working factor of three for the design of adsorption beds. Factors affecting adsorption bed capacity include loss due to adsorption zone, heat wave (adsorption is an exothermic process), moisture in the entering gas, and residual moisture on the carbon.

IT 50-21-5, Lactic acid, processes 108-05-4, Vinyl acetate, processes

RL: PRP (Properties); REM (Removal or disposal); PROC (Process)
(calcn. of adsorption capacity of activated carbon for volatile organic compds. in relation to waste gas treatment)

RN 50-21-5 CAPLUS

CN Propanoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



RN 108-05-4 CAPLUS

CN Acetic acid ethenyl ester (9CI) (CA INDEX NAME)



L11 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1990:608078 CAPLUS

DOCUMENT NUMBER: 113:208078

TITLE: Clostridium homopropionicum sp. nov., a new strict anaerobe growing with 2-, 3-, or 4-hydroxybutyrate

AUTHOR(S): Doerner, Christina; Schink, Bernard

CORPORATE SOURCE: Eberhard-Karls-Univ., Tuebingen, D-7400, Germany

SOURCE: Archives of Microbiology (1990), 154(4), 342-8

CODEN: AMICCW; ISSN: 0302-8933

DOCUMENT TYPE: Journal

LANGUAGE: English

AB From anoxic sewage sludge a new strictly anaerobic, spore-forming bacterium was isolated with 2-hydroxybutyrate as sole substrate. Compds. 2-, 3-, and 4-hydroxybutyrate, 4-chlorobutyrate, crotonate, vinylacetate, and pyruvate were fermented to acetate and butyrate. Fructose was converted to acetate, butyrate, butanol, and H₂. Lactate and acrylate were fermented to acetate and propionate. Cells pregrown with lactate fermented 2-hydroxybutyrate to butyrate, propionate and acetate. No inorg. electron acceptors were reduced. The DNA base ratio was 32.0 mol% and was similar to that of Clostridium propionicum, which was determined to be 35.3 mol%. Strain LuHBu1 is described as type strain of a new species, Clostridium homopropionicum sp. nov. Another isolate obtained from marine sediment degraded 2- and 3-hydroxybutyrate to acetate and butyrate and was in some respect similar to the known species Ilyobacter polytropus.

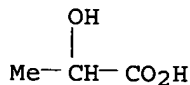
IT 50-21-5, biological studies 108-05-4, Vinylacetate,

biological studies

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(metabolism of, by Clostridium homopropionicum)

RN 50-21-5 CAPLUS

CN Propanoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



RN 108-05-4 CAPLUS

CN Acetic acid ethenyl ester (9CI) (CA INDEX NAME)



L11 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1985:595831 CAPLUS

DOCUMENT NUMBER: 103:195831

TITLE: Alkoxyacylation or carbonylation with carbon monoxide and organic hydroxyl compound

INVENTOR(S): Cesa, Mark Clark; Burrington, James David

PATENT ASSIGNEE(S): Standard Oil Co., USA

SOURCE: Eur. Pat. Appl., 25 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 144118	A1	19850612	EP 1984-305611	19840817
EP 144118	B1	19870715		
R: BE, CH, DE, FR, GB, IT, LI, NL				
CA 1247640	A1	19881227	CA 1984-460921	19840813
BR 8404218	A	19850723	BR 1984-4218	19840824
JP 60149544	A2	19850807	JP 1984-180222	19840829
PRIORITY APPLN. INFO.:			US 1983-527051	A 19830829

AB Hydroxy acids $\text{RR}_1\text{CHCR}_2(\text{OH})\text{CO}_2\text{H}$ ($\text{R}-\text{R}_2 = \text{H}$; C1-30 hydrocarbon were prepared by treating $\text{RR}_1\text{C}:\text{CR}_2\text{OR}_3$ ($\text{R}_3 = \text{acyl}$) with CO and an alc. R_4OH ($\text{R}_4 =$ hydrocarbon which does not contain acetylenic or ethylenemic unsatn.) to give the esters $\text{RR}_1\text{CHCR}_2(\text{OR}_5)\text{CO}_2\text{R}_4$ ($\text{R}_5 = \text{H}$, R_3) which were hydrolyzed. Thus, $\text{H}_2\text{C}:\text{CHOAc}$ (I) in MeOH was treated with CO at 1000 psi and 100° for 44 h, using $\text{PdCl}_2(\text{PPh}_3)_2$ catalyst, to give 84.5% I conversion, with $\text{MeO}_2\text{CCHMeOAc}$ formed in 81.6% yield, and $\text{MeO}_2\text{CCHMeOH}$ formed in 4% yield. The products were hydrolyzed to lactic acid.

IT 108-05-4, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(carbonylation of, palladium catalyst for)

RN 108-05-4 CAPLUS

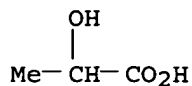
CN Acetic acid ethenyl ester (9CI) (CA INDEX NAME)



IT 50-21-5P, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, via carbonylation of vinyl acetate)
RN 50-21-5 CAPLUS
CN Propanoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



L11 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1977:105957 CAPLUS
DOCUMENT NUMBER: 86:105957
TITLE: Lactic acid
INVENTOR(S): Tinker, Harold B.
PATENT ASSIGNEE(S): Monsanto Co., USA
SOURCE: Ger. Offen., 43 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2623673	A1	19761216	DE 1976-2623673	19760526
NL 7605540	A	19761130	NL 1976-5540	19760524
BE 842268	A1	19761126	BE 1976-167373	19760526
DK 7602315	A	19761128	DK 1976-2315	19760526
SE 7606006	A	19761128	SE 1976-6006	19760526
SE 429961	B	19831010		
SE 429961	C	19840126		
NO 7601795	A	19761130	NO 1976-1795	19760526
NO 147599	B	19830131		
NO 147599	C	19830511		
BR 7603318	A	19761207	BR 1976-3318	19760526
JP 51143617	A2	19761210	JP 1976-61061	19760526
JP 59035378	B4	19840828		
FR 2312485	A1	19761224	FR 1976-16019	19760526
FR 2312485	B1	19801114		
GB 1494604	A	19771207	GB 1976-21846	19760526
CA 1053700	A1	19790501	CA 1976-253351	19760526
CH 623556	A	19810615	CH 1976-6629	19760526

PRIORITY APPLN. INFO.:

AB Lactic acid was produced by hydroformylation of $\text{RCO}_2\text{CH:CH}_2$ ($\text{R} = \text{Me, Et}$), oxidation of the resultant $\text{RCO}_2\text{CHMeCHO}$ to $\text{RCO}_2\text{CHMeCO}_2\text{H}$, then acid hydrolysis. Rh catalysts, e.g., $\text{Rh}(\text{cyclooctadiene})(\text{Ph}_3\text{P})_2\text{BPh}_4$, not containing halogen were less corrosive and thus were preferred hydroformylation catalysts.

IT 108-05-4, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(hydroformylation of, in manufacture of lactic acid)

RN 108-05-4 CAPLUS

CN Acetic acid ethenyl ester (9CI) (CA INDEX NAME)

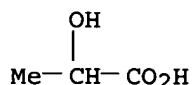


IT 50-21-5P, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, via hydroformylation of vinyl acetate)

RN 50-21-5 CAPLUS

CN Propanoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



L11 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1975:478595 CAPLUS

DOCUMENT NUMBER: 83:78595

TITLE: Peroxide chemicals

INVENTOR(S): Merkl, George G.

PATENT ASSIGNEE(S): USA

SOURCE: Ger. Offen., 45 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2432889	A1	19750306	DE 1974-2432889	19740709
GB 1470983	A	19770421	GB 1974-31756	19740717
FR 2313360	A1	19761231	FR 1974-26676	19740731
FR 2313360	B1	19780616		
NL 7410618	A	19750224	NL 1974-10618	19740807
IT 1018908	A	19771020	IT 1974-52533	19740809
BE 818817	A2	19750213	BE 1974-7000559	19740813
JP 50062913	A2	19750529	JP 1974-92443	19740814
FR 2264867	A1	19751017	FR 1975-17068	19750530

PRIORITY APPLN. INFO.: US 1973-389998 A 19730820

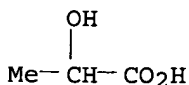
AB Al-containing peroxides and peroxide polymers, useful in detergents, were prepared by reacting reactive Al rods peroxide organic or inorg. compds. containing

active H and H₂O₂. Thus, treatment of adipic acid 209 with H₂O₂ 309 and reactive Al 169g gave a peroxide product with bleaching properties.

IT 50-21-5DP, Propanoic acid, 2-hydroxy-, reaction product with aluminum and hydrogen peroxide 108-05-4DP, Acetic acid ethenyl ester, reaction product with hydrogen peroxide and aluminum
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 50-21-5 CAPLUS

CN Propanoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



RN 108-05-4 CAPLUS

CN Acetic acid ethenyl ester (9CI) (CA INDEX NAME)

